

25 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 89 is not Leu;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

26 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

- (v) substitution of Val₉₁ by Ala or Gly;
- (vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and
- (vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 90 is not Glu;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

27 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu,

Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu,
Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe,
or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino
acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu,
Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic
amino acid residue;

with the proviso that the residue at 91 is not Ala;

(C) a peptide obtained by elongation of (A) or (B) at
the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C),
and/or an N-acyl derivative of (A), (B), or (C).

28 (New). An isolated peptide capable of inhibiting
in vitro the enzymatic activity of human Leukocyte Elastase
(hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of
the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 92 is not Ile;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

29 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 94 is not Val;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

30 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 95 is not Ser;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

31 (New). An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu,

Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu,
Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe,
or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino
acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu,
Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic
amino acid residue;

with the proviso that the residue at 96 is not Ile;

(C) a peptide obtained by elongation of (A) or (B) at
the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C),
and/or an N-acyl derivative of (A), (B), or (C).

OR

25 (New). An isolated peptide capable of inhibiting
in vitro the enzymatic activity of human Leukocyte Elastase
(hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 89 is not Leu, the residue at 90 is not Glu, the residue at 91 is not Ala, the residue at 92 is not Ile, the residue at 94 is not Val, the residue at 95

is not Ser, and the residue at 96 is not Ile all at the same time;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).